

## Magnificent mayflies

Gaylord Schanilec is hooked on fishing flies that imitate nature.

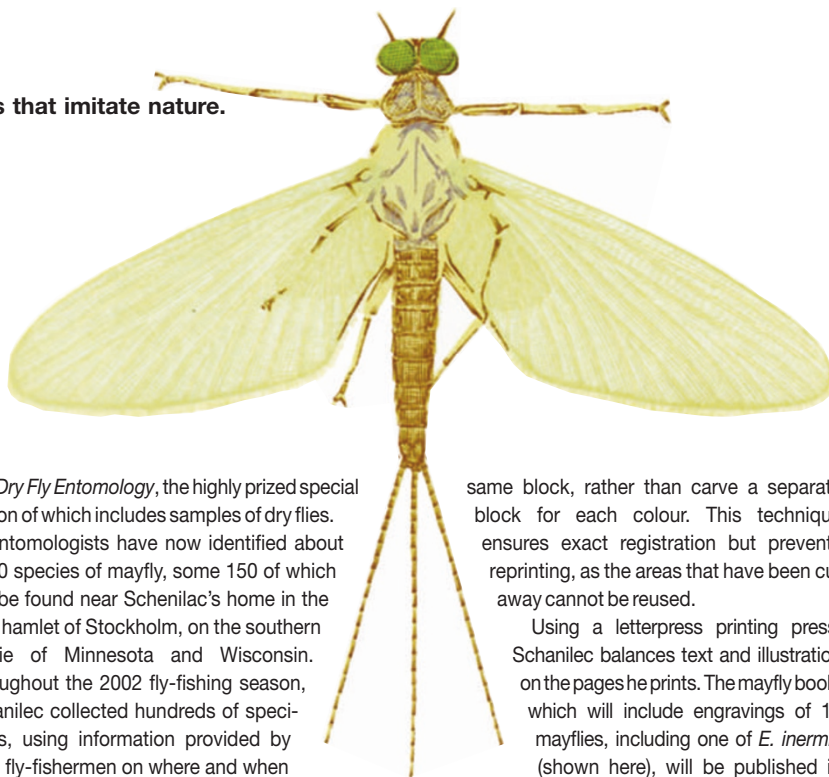
Colin Martin

Inspiration can be found anywhere. Gaylord Schanilec, wood engraver, fine printer and trout fly-fisherman found it on a river bank, in the form of the common mayfly.

Schanilec owns Midnight Paper Sales, a private press that publishes small, limited editions of illustrated books, often related to local history or geography. He designs, engraves and prints the books, and often writes the text. Each book project begins with an idea that evolves gently into the shape of the final book, a process that can take years. He is now hard at work illustrating and writing an as-yet untitled book on the species of mayflies (Ephemeroptera) found in his local rivers.

The idea for the book came to him in the summer of 2001 when, as usual, he spent as much time as he could fishing. This gave him plenty of time to contemplate the artificial fishing flies, hand-tied to imitate mayflies, with which he baited his hook. Trout are a major natural predator of mayflies in the wild, and trout fishermen have for centuries used local knowledge to tie appropriate artificial flies, called dry flies, as bait. This year, for example, is the sesquicentennial of Greenwell's Glory, a dry fly first tied by William Greenwell in 1854.

Not wishing to rely solely on fishermen's folklore, in the winter of 2001 Schanilec consulted Clarke Garry, a biologist at the University of Wisconsin at River Falls, who studies insect life in local trout streams. Under Garry's guidance, Schanilec bought a microscope, specimen vials and preservative agents, and developed techniques for collecting, preserving and documenting mayflies. He also read widely around his subject, including two late-nineteenth-century books by Frederick M. Halford, *Dry Fly Fishing in Theory and Practice*



and *Dry Fly Entomology*, the highly prized special edition of which includes samples of dry flies.

Entomologists have now identified about 2,000 species of mayfly, some 150 of which can be found near Schanilec's home in the river hamlet of Stockholm, on the southern prairie of Minnesota and Wisconsin. Throughout the 2002 fly-fishing season, Schanilec collected hundreds of specimens, using information provided by local fly-fishermen on where and when to find particular species, such as *Hexagenia limbata* on the lower Rush River and *Ephemerebella subvaria* on particular stretches of the south branch of the Whitewater River. He has so far selected seven of these species for wood-cutting, including *E. subvaria*. Garry described them taxonomically and identified them for him.

Schanilec makes painstakingly detailed drawings. He then carves his final images into hard blocks of end-grain wood using sharp, metal gouging tools, to produce precisely detailed engravings from which he prints distinctive images in several colours. Reduction cutting — carving away more of the surface of the wood block between printings — allows him to print two or more colours from the

same block, rather than carve a separate block for each colour. This technique ensures exact registration but prevents reprinting, as the areas that have been cut away cannot be reused.

Using a letterpress printing press, Schanilec balances text and illustration on the pages he prints. The mayfly book, which will include engravings of 12 mayflies, including one of *E. inermis* (shown here), will be published in autumn next year in three editions: a large edition of portfolios of loose prints; a standard book, including both Garry's taxonomic descriptions and trout fishermen's folklore for each species bound alongside the prints; and a special edition, issued with hand-tied flies imitating each species, and an extra set of prints.

There is something rather magnificent about Schanilec's enterprise in capturing this most ephemeral order of insects between the covers of finely bound books. It recalls the remarkable eighteenth-century collaborations between artists and scientists in the Enlightenment.

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had left it to us to discover oil paints, milk of magnesia and whisky. We were (perhaps) better off as a result, but the natural theologian might be uneasy at the busy chymists' activities. And when naturally occurring substances were apparently made artificially, some were sceptical about whether they were exactly the same. Alchemists claimed that the processes by which gold was supposed to be generated in the bowels of the Earth were merely speeded up in their furnaces, but critics were not convinced, some seeing devilment lying behind any apparently successful transmutation.

Alchemists were not simply fixated on gold; they also sought not only to prolong life, but to synthesize it. Newman explores two routes to this end. The first was based on Jewish stories about the golem, made like Adam from the dust and brought to life (and destroyed when necessary) through Hebrew

words. A golem lacked a rational soul, and so was not human. The other tradition was a kind of male parthenogenesis, in which women (the source of flesh and blood) could be bypassed and a homunculus grown in a glass vessel from semen. The homunculus often appeared in alchemical pictures, and most famously in Johann Wolfgang von Goethe's play *Faust*. The homunculus was a spirit, unable to survive outside his flask; but from within it he could expound wisdom that was unavailable to ordinary mortals weighed down by their bodies. In this connection, Newman provides an interesting section on Paracelsus, the genius or charlatan who brought chymistry into medicine, with his sexual hang-ups and fascination with phoenix-like 'rebirths' through fire.

The ethical problems facing Newman's cast of characters were hypothetical — after all, alchemy didn't work. But in an age of test-

tube babies, Dolly the sheep and a vast array of synthetic chemicals, they are real enough.

Newman ends with a learned discussion of experiment — emphasizing that alchemy was an investigative science, carried on in the laboratory rather than the armchair — from medieval times up to Francis Bacon, Boyle, Newton and Margaret Cavendish. We meet artisans such as Bernard Palissy (who was 'making' fossils), as well as scholastic logicians. We are reminded that the 'scientific revolution' was not simply a matter of a new astronomy and a new physics. Rather, it was heavily dependent on the experimental tradition and critical thinking about analysis and synthesis. Alchemy would ultimately give birth not to a homunculus, but to the new chemistry. ■

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